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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,760	01/27/2004	Michael L. Klein	899-76335-02	2895

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EXAMINER	
BABIC, CHRISTOPHER M	

ART UNIT	PAPER NUMBER
1637	

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/766,760	KLEIN ET AL.	
	Examiner	Art Unit	
	Christopher M. Babic	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-20* is/are pending in the application.

4a) Of the above claim(s) *1-6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/29/2004*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of group II, claims 7-20, in the reply filed on August 25, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on pages 5, 6, 40, 41, 44, and 45 for example. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Interpretation

The claims all include a preamble that states "a method of determining whether a subject is at risk for development of macular degeneration" or "a method for determining whether a subject displaying symptoms is suffering from familial AMD" or " a method for determining whether a subject is free of AMD associated with a mutation of the FIBL-6 gene." With respect to claim interpretation, the question is to what extent these preamble limitations breathe life and meaning into the claim. For purposes of enablement of the invention, and in particular use of the invention, these limitations will

be addressed in the 112, first paragraph enablement rejection as discussed below. However, for purposes of applying the prior art, MPEP 2111.02 states that "If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction." In the current case, the preamble does not limit the claims in any way and will not be considered in the application of prior art, only enablement.

With specific regard to the "wherein" clauses in claims 7, 16, and17, they are not considered active method steps. They are merely an alleged factual relationship between the assay results and the disease state that refers back to the intended use of the invention. There is no requirement in the claim to actively *correlate* or *associate* the analysis with the particular disease. In the current case, the "wherein" clauses do not limit the claims in any way and will not be considered in the application of prior art, only enablement.

Claim Rejections - 35 USC § 112 - Indefiniteness

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claims 7-9 and 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: In claims 7, 16, and 17, there are no active method steps for the actual *determination of risk or diagnosis of AMD with respect to a mutation in the FIBL-6 gene.* As noted above, the "wherein" clauses are not considered active method steps. They are merely an alleged factual relationship between the assay results and the disease state that refers back to the intended use of the invention. There is no requirement in the claim to actively *correlate* or *associate* the analysis with the particular disease.

Claim Rejections - 35 USC § 112 – Written Description

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Mutations (SNPs)

Claims 7-11, 13, 15-20 encompass methods for assessing risk and diagnosis of AMD as associated with mutations of the FIBL-6 gene, for which no written description is provided in the specification. Specifically, claims 7-10, 13, 14, and 16-20 encompass methods utilizing *any mutation within the FIBL-6* as an indication of the development of age-related macular degeneration (AMD), but the specification gives only certain specific mutations, namely an A>G conversion @ 16,263 of the FIBL-6 gene causing Gln5345Arg (hereinafter Gln5345Arg), as examples of such. Furthermore, claims 11 and 15 encompass methods utilizing substitution mutations of least one base codon at position 16,262, 16,263, and 16,264 of SEQ ID NO: 1 (FIBL-6), wherein the codon encodes for any amino acid other than glycine, however, the specification gives only certain specific mutated codons (e.g. Gln5345Arg) as examples of such.

It is noted in the recently decided case The Regents of the University of California v. Eli Lilly and Co. 43 USPQ2d 1398 (Fed. Cir. 1997) decision by the CAFC that

"In claims to genetic material, however, a generic statement such as "vertebrate insulin cDNA" or "mammalian insulin cDNA," without more, is not an adequate written description of the genus because it does not distinguish the claimed genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. A definition by function, as we have previously indicated, does

not suffice to define the genus because it is only an indication of what the gene does, rather than what it is. See Fiers, 984 F.2d at 1169- 71, 25 USPQ2d at 1605- 06 (discussing Amgen). It is only a definition of a useful result rather than a definition of what achieves that result. Many such genes may achieve that result. The description requirement of the patent statute requires a description of an invention, not an indication of a result that one might achieve if one made that invention. See In re Wilder, 736 F.2d 1516, 1521, 222 USPQ 369, 372- 73 (Fed. Cir. 1984) (affirming rejection because the specification does "little more than outlin[e] goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate."). Accordingly, naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material. "

It is noted that in Fiers v. Sugano (25 USPQ2d, 1601), the Fed. Cir. concluded that

"...if inventor is unable to envision detailed chemical structure of DNA sequence coding for specific protein, as well as method of obtaining it, then conception is not achieved until reduction to practice has occurred, that is, until after gene has been isolated...conception of any chemical substance, requires definition of that substance other than by its functional utility."

In the instant application, a certain subset of specific SEQ ID NOs is described. Also, in Vas-Cath Inc. v. Mahurkar (19 USPQ2d 1111, CAFC 1991), it was concluded that:

"...applicant must also convey, with reasonable clarity to those skilled in art, that applicant, as of filing date sought, was in possession of invention, with invention being, for purposes of "written description" inquiry, whatever is presently claimed."

In the application at the time of filing, the specification clearly discloses results that suggest Gln5345Arg to be associated with the development of AMD (pg. 37-45). The specification does discloses that four synonymous (C5086T, C7600T, C 13216T, and C 16852G) and seven non-synonymous (Ala1624Val, Met2327Ile, Ile2418Thr, Glu2893Gly, His4084Tyr, Asp5087Val, and Arg5188His) changes were found in addition to the Gln5345Arg variation, however, provides no empirical evidence that these mutations are associated in any way with AMD. In fact, the specification provides no record or description whatsoever that would demonstrate conception or description

of methods associating *any mutation* of the FIBL-6 sequence, other than Gln5345Arg, with a risk or diagnosis of AMD. This larger genus of mutation encompasses virtually thousands of different possibilities, none of which are described in the specification. Therefore, the claims fail to meet the written description requirement by encompassing mutations that are not described in the specification.

Subjects

Claims 7-20 encompass methods for assessing risk and diagnosis of AMD in subjects, for which no written description is provided in the specification. Specifically, claims 7-20 encompass methods for assessing risk and diagnosis of AMD in a variety of mammals such as humans, chickens, pigs, horses, etc., but the specification gives only certain specific mammals (e.g. humans) as examples of such.

In the application at the time of filing, the specification clearly discloses results that indicate Gln5345Arg to be associated with AMD *in humans only* (pg. 37-45). The specification does discloses that in all mammals assayed (e.g. pig, rabbit, dog, rat, cat, sheep, chicken, etc.), the amino acid at a position equivalent to 5345 in human FIBL-6 was conserved as glutamine (Figure 2)., however, provides no empirical evidence that Gln5345Arg happens in the additional mammals or that any mutation within the sequences analyzed are associated in any way with AMD. In fact, the specification provides no record or description whatsoever that would demonstrate conception or description of methods for assessing risk and diagnosis of AMD in *any mammal*, other than in humans. This larger genus of mutation encompasses virtually thousands of

different possibilities, none of which are described in the specification. Therefore, the claims fail to meet the written description requirement by encompassing subjects that are not described in the specification.

Diagnostic Methods

Claims 16 and 17 appear to recite a method of diagnosing AMD in a subject, however, do not contain an active, definitive diagnostic step. Furthermore, at the time of filing, the specification does not provide description of a definitive diagnosis of AMD based on the core FIBL-6 genotyping method. The instant specification describes an assay validation example wherein the *diagnosis* of AMD was based upon stereoscopic fundus photographs (pg. 40, ex. 2). The working examples make no reference to the actual diagnosis of AMD in patients based on the core FIBL-6 genotyping method. "A method of diagnosing AMD" infers that the genotyping of FIBL-6 in a patient of unknown disease was used to definitively diagnose a patient with AMD, and requires that the evidence and subsequent diagnosis be thoroughly documented. In comparison, "A method for confirming the diagnosis of AMD" infers a much less degree of certainty as to whether the patient definitively has AMD, and thus requires much less evidence of an actual diagnosis of the disease. As such, the definitive diagnosis of AMD by performing the recited method was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 112 – Enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not reasonably provide enablement for all claimed embodiments. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure meets the enablement requirement of 35 USC 112, first paragraph, have been described by the court in *In re Wands*, 8 USPQ2d 1400 (CA FC 1988). *Wands* states at page 1404,

> "Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized by the board in Ex parte Forman. They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims."

Enablement Issues

This enablement rejection is based on several fundamental enablement problems with the claims. All of these issues are "how to use" problems in that the do not reasonably provide enablement for all claimed embodiments without undue experimentation. First, with regard to claims 7-20, the specification does not reasonably provide enablement for the use of any mutation of FIBL-6 in the instant methods. This

particular issue has to do primarily with an art-recognized problem that will be discussed later in the body of the rejection. Furthermore, with regard to claims 7-20, the specification does not reasonably provide enablement for the use the instant methods for assessing risk and diagnosis of AMD in *any mammal*. Lastly, with regard to claims 16 and 17, the specification does not reasonably provide enablement for the use the instant methods actual diagnosis of AMD.

The Nature of the Invention

The claims are broadly drawn to methods for assessing risk and diagnosis of AMD in *any* subject as associated with *any* mutation of the FIBL-6 gene. The invention is in the class of invention which the CAFC has characterized as "the unpredictable arts such as chemistry and biology." Mycogen Plant Sci., Inc. v. Monsanto Co., 243 F.3d 1316, 1330 (Fed. Cir. 2001).

The Breadth of the Claims

The claims are broadly drawn to methods for assessing risk and diagnosis of AMD in *any* subject as associated with *any* mutation of the FIBL-6 gene. Thus, these claims encompass a broad range of subjects and FIBL-6 mutations, not contained within the specific regions that were assayed for methylation.

Quantity of Experimentation

The quantity of experimentation in this area is immense since there is complete variability in the association of a gene mutation with a particular disease state. It would require significant study and experimentation including trials with hundreds, possibly thousands of patients to determine that one particular mutation of a particular gene is associated in any way with a disease state. This would be an inventive, unpredictable, and difficult undertaking as detecting even a risk of developing of a particular disease state would need to be demonstrated in a variety of patients with a statistically significant result. This would require years of inventive effort, with each of the many intervening steps, upon effective reduction to practice, not providing any guarantee of success in the succeeding steps.

The Unpredictability of the Art and the State of the Prior Art

In a broad sense, as in claims 7-11 and 13-20, the art is replete with evidence that teaches not only that gene association studies are entirely unpredictable, but also require great amounts of testing to give reliable results. For example, Lucentini et al (The Scientist (2004) Vol 18) titled his article "Gene Association Studies Typically Wrong" and states "Two recent studies found that typically, when a finding is first published linking a given gene with a complex disease, there is only roughly a one-third chance that studies will reliably confirm the finding (see page 2 of printout)." This is consistent with the teaching of Wacholder et al. (J. Natl. Cancer Institute (2004) 96(6):434-442) who notes that "Too many reports of associations between genetic

variants and common cancer sites and other complex diseases are false positives (see abstract)".

Furthermore, Allen et al. (DDT:Targets (2004) 3(6): 183-190) highlights that "To detect association between a variant and disease, large sample sizes are required, consisting of thousands of cases and controls, even for strong genetic effects. With large-scale studies, there is a good chance of identifying association to disease loci with moderate effect if common SNP markers (typically those with a minor allele frequency <10%) are used. Many previous studies failed to use sufficiently sized populations to identify association, which is one reason why many reported associations have not been replicated in a second population." This is consistent with the teaching of Zondervan et al. (Nature Reviews (2004) Vol. 5: 89-99) who notes that "Although many rare alleles are likely to be associated with complex traits, it is unlikely that we will find them using association-study designs if they have small effect sizes,..., many thousands of cases and controls will be required for a reasonable chance to find these associations."

Therefore, in a broader sense, the art suggests that not only that gene association studies are entirely unpredictable, but also require great amounts of testing to give reliable results. The findings disclosed in the instant specification merely act as an invitation to experiment and do not necessarily apply to all mutations, subjects, or an actual diagnosis.

With specific regard to the results in the specification that suggest an association between Gln5345Arg and the development of AMD, as in claim 12, there appear to be art-recognized problems with the specific relationship asserted by Applicant.

A review of Applicant's work by Tuo et al. (Progress in Retinal and Eye Research (2004) Vol. 23 229-249) concluded that, "To what degree and by which mechanisms HEMICENTIN-1 plays a role in AMD pathogenesis are **questions that remain to be answered**," (page 238, col. 2, 2nd para).

More recently, a review article by Haddad et al. (Survey of Opthamology (2006) 51(4) 316-363) makes specific reference to the discovery of Applicant and suggests the results to be ultimately inconclusive within the art (pg. 355, 356, HEMICENTIN-1). They note specifically that, " Additional research has failed to confirm the involvement of the HEMICENTIN-1 gene. One study screened exon 104 of HEMICENTIN-1 in a group of 620 AMD patients and 237 controls and found no sequence variations in any of the samples examined. Another study examined 449 AMD patients and 183 controls for the Gln5346Arg variant described by Schultz et al. **They did not detect this variant in any of the subjects**, but they did find two other rare missense variants in exon 104. These variants were present in two patients each but were not found in any controls." They further highlight that, " Another study found evidence for AMD linkage to the HEMICENTIN-1 region; however, **no mutations were observed in exon 104 upon examination of the affected individuals in the linked families**. This suggests that a gene for AMD might be located in close proximity to HEMICENTIN-1. However, it is also possible that HEMICENTIN-1 variants themselves play a causative role in AMD.

HEMICENTIN-1 is a large gene containing 107 exons, and most studies to date have only examined a single exon within this gene. Although Schultz and colleagues did search the entire gene for variants, their work was based on a single large family. Therefore, we cannot rule out some role for this gene in the development of AMD."

Therefore, the art clearly suggests that the results of Applicant with respect to an association between Gln5345Arg and the development of AMD is ultimately inconclusive and requires more experimentation to confirm. The findings disclosed in the instant specification merely act as an invitation to experiment and confirm the result discovered by Applicant.

Working Examples

The specification clearly discloses working examples that indicate the mutation A>G conversion @ 16,263 of the FIBL-6 gene causing Gln5345Arg to be associated with AMD (pg. 37-45). The specification does discloses that four synonymous (C5086T, C7600T, C 13216T, and C 16852G) and seven non-synonymous (Ala1624Val, Met2327Ile, Ile2418Thr, Glu2893Gly, His4084Tyr, Asp5087Val, and Arg5188His) changes were found in addition to the Gln5345Arg variation, however, provides no empirical evidence that these mutations are associated in any way with AMD.

Guidance in the Specification

The specification, while suggesting an association between Gln5345Arg and the development of AMD (pg. 37-45) provides no empirical evidence that any other mutations are associated in any way with AMD.

Level of Skill in the Art

The level of skill in the art is deemed to be high.

Conclusion

In the instant case, as discussed above, the level of unpredictability in the art and the quantity of experimentation needed to establish an association between the mutations and disease states renders the instant invention enabled only for the specific mutation disclosed. The specification provides one with no written description or guidance that leads one to a reliable method where an association can be made between any mutation within the FIBL-6 gene and the onset of AMD as currently encompassed by the instant claims. One of skill in the art cannot readily anticipate the effect of a change within the subject matter to which the claimed invention pertains. Further, the specification does not provide guidance to overcome art and specification recognized problems in associating mutations and disease states.

Thus, given the broad claims in an art whose nature is identified as unpredictable, the unpredictability of that art, the large quantity of research required to define these unpredictable variables, the lack of guidance provided in the specification, the presence of a working example which does not address the issue performing the

methods in conjunction with any mutation within the FIBL-6 gene, any subject, and an actual diagnosis, and the negative teachings in the prior art balanced only against the high skill level in the art, it is the position of the examiner that it would require undue experimentation for one of skill in the art to perform the method of the claim as broadly written.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7-9, 13, 14, and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Klein et al. ("Age-related macular degeneration. Clinical features in a large family and linkage to chromosome 1q" Arch Ophthalmol. 1998 Aug;116(8):1082-8).

As noted above, for purposes of applying the prior art, MPEP 2111.02 states that "If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to

claim construction." In the current case, the preamble does not limit the claims in any way and will not be considered in the application of prior art, only enablement.

With specific regard to the "wherein" clauses in claims 7, 16, and17, they are not considered active method steps. They are merely an alleged factual relationship between the assay results and the disease state that refers back to the intended use of the invention. There is no requirement in the claim to actively *correlate* or *associate* the analysis with the particular disease. In the current case, the "wherein" clauses do not limit the claims in any way and will not be considered in the application of prior art, only enablement.

With regard to claim 7, Klein et al. teach a method comprising: a) obtaining a nucleic acid sample from the subject; and (b) conducting an assay on the nucleic acid sample to determine the presence or absence of a FIBL-6 gene mutation associated with macular degeneration (pg. 1083, genotyping, for example). The studies of Klein found that the disease causing gene for ARMD (ARMD1) in the particular family studied was located within approximately a 90cM region at chromosome 1q25-1q31, defined by microsatellite markers D1S240 and D1S412 (pg. 1087, bottom col. 2, for example). Thus, the assays taught by Klein *necessarily* teach determining the presence of a FIBL-6 mutation.

With regard to claims 8, 9, 13 Klein teaches genotyping and linkage assays (pg. 1083). Absent any formal definition of the phrase "direct sequencing assays" within the specification, the phrase can be considered to encompass the teachings of Klein.

Furthermore, Klein teaches obtaining a genomic DNA sample ((pg. 1083, genotyping, for example). The initial sample *necessarily* contained RNA.

With regard to claim 14, 16, and 17 please refer to the rejection of claim 7. Absent any formal definition of the phrase "obtaining the nucleotide sequence" within the specification, the phrase can be considered to encompass the teachings of Klein.

With regard to claims 18 and 19, Klein teaches genotyping and linkage assays (pg. 1083). Absent any formal definition of the phrase "direct sequencing assays" within the specification, the phrase can be considered to encompass the teachings of Klein. Furthermore, Klein teaches obtaining a genomic DNA sample ((pg. 1083, genotyping, for example). The initial sample *necessarily* contained RNA.

With regard to claim 20, please refer to the rejection of claim 7. Absent any formal definition of the phrase "obtaining the nucleotide sequence" within the specification, the phrase can be considered to encompass the teachings of Klein.

Prior Art Search

With regard to claims 10-12 and 15, a search of the prior art found no reference teaching or fairly suggesting the specific amplification and genotyping of a FIBL-6 (HEMICENTIN-1) cDNA molecule. Nor did the prior art search find a reference teaching or fairly suggesting an association between Gln5345Arg and the development of AMD. However, claims 10-12 and 15 are rejected for other reasons outlined above.

Conclusion

Claims 7-20 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Babic whose telephone number is 571-272-8507. The examiner can normally be reached on Monday-Friday 7:00AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher M. Babic
Patent Examiner

11-13-06

YOUNG J. KIM
PRIMARY EXAMINER